

## Chapter 16.2

### STORMWATER MANAGEMENT

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#### ARTICLE I. GENERAL PROVISIONS

##### **Sec. 16.2-1. Purpose.**

The purpose of this chapter is to ensure that the adverse impacts of stormwater runoff from development sites in the City of Lynchburg are contained on-site to the greatest extent possible, by establishing minimum requirements and procedures to control the stormwater runoff associated with land development. By converting more or less natural landscapes to sites with impervious surfaces, development can cause increases in the quantity and velocity of stormwater runoff and decreases in the water quality of stormwater runoff. Adverse impacts from development shall not be allowed to affect adjacent or downstream property owners. The Lynchburg City Council has determined that the lands and waters comprising the watersheds of the city are valuable and important natural resources, which provide subsistence for life. Therefore, it is determined that it is in the public interest to establish requirements to regulate the discharge of stormwater runoff from land development projects as provided for in this chapter. The waters and waterways within the city are at times subjected to flooding. Such flooding is a danger to the lives and property of the public and is also a danger to the natural resources of the city. Land development tends to accentuate such flooding by increasing stormwater runoff, due to alteration of the hydrologic response of the watershed in changing from the undeveloped to the developed condition. The flooding produced by the development of real property contributes increased quantities of water-borne pollutants, and tends to increase channel erosion. Such flooding, erosion, and pollution constitutes deterioration of the water resources of the City of Lynchburg. These adverse effects can be controlled to some extent by the regulation of stormwater runoff from such land development. Proper management of stormwater runoff will minimize damage to public and private property, reduce the effects of development on land and stream channel erosion, assist in the attainment and maintenance of water quality standards, reduce local flooding, and maintain as nearly as possible, the pre-development runoff characteristics of the area. These procedures will apply to any land-disturbing activity, as done by public and private entities in the City of Lynchburg. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

##### **Sec. 16.2-2. Title.**

The provisions of this chapter shall constitute and be known as the “Lynchburg Stormwater Management Ordinance,” as authorized by the Virginia Stormwater Management Act Title 10.1 Chapter. 6 Article 1.1 of the Code of Virginia as amended through 1998. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

##### **Sec. 16.2-3. Authority.**

The provisions of this chapter are adopted pursuant to The Virginia Stormwater Management Act, Article 1.1 (Section 10.1-603.1 et seq.) of Chapter 6 of Title 10.1, of the Code of Virginia, which enables counties, cities and towns to prepare and adopt a stormwater management program and implementing ordinance. The application of this chapter and the provisions expressed herein shall be the minimum stormwater management requirements and shall not be deemed a limitation or repeal of any other powers granted by the state statute. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Sec. 16.2-4. Program administration.**

The City of Lynchburg program administrator or his/her designee shall be responsible for the coordination, administration and enforcement of the provisions of this chapter. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Sec. 16.2-5. Scope of chapter.**

(a) No person shall develop any land for residential, commercial, industrial or institutional use without having provided for appropriate stormwater management measures that control or manage both stormwater runoff and water quality except as provided within this article.

(b) Notwithstanding any other provisions of this chapter, the following development activities are exempt from the requirements of providing stormwater management.

(1) Agricultural land management activities such as tilling, planting or harvesting of agricultural, horticultural, or forest crops.

(2) Land development projects that disturb less than one thousand (1,000) square feet of land area.

(3) Single-family residences separately built and not part of a subdivision.

(4) Additions or modification to existing single-family detached residential structures.

(5) Permitted surface or deep mining operations and projects, or oil and gas operations and projects conducted under the provisions of Title 45.1 of the Code of Virginia.

(6) Linear development projects, provided that (i) less than one acre of land will be disturbed per outfall or watershed, (ii) there will be insignificant increases in peak flow rates, and (iii) there are no existing or anticipated flooding or erosion problems downstream of the discharge point. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Sec. 16.2-6. Compatibility with other permit and ordinance requirements.**

Approvals issued pursuant to this chapter do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act or ordinance. If more stringent requirements concerning the regulation of stormwater runoff are contained in the other code, rule, act or ordinance, the more stringent regulation shall apply. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Sec. 16.2-7. Severability.**

The provisions of this chapter are hereby declared to be severable, and, in the event that any section, subsection, paragraph, subparagraph, sentence, clause, phrase or word of this chapter is declared to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality shall not affect the remaining words, phrases, clauses, sentences, subparagraphs, paragraphs, subsections, or sections of this chapter, since the same would have been enacted without the incorporation in this chapter of any such invalid or unconstitutional word, phrase, clause, sentence, subparagraph, paragraph, subsection or section. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Sec. 16.2-8. Definitions.**

Unless specifically defined below, words or phrases used in this chapter shall be interpreted so as to give them the meaning they have in common usage and to give this chapter its most reasonable application.

(1) "Adequate channel" means a channel that will convey the designated frequency storm event without overtopping the channel banks nor causing erosive damage to the channel bed or banks.

(2) "Applicant" means any person submitting a stormwater management plan for approval.

(3) "Aquatic bench" means a ten (10) to fifteen (15)-foot wide bench around the inside perimeter of a permanent pool that ranges in depth from zero to twelve (12) inches. Vegetated with emergent plants, the bench augments pollutant removal, provides habitats, conceals trash and water level fluctuations, and enhances public safety.

(4) "Average land cover condition" means a measure of the average amount of impervious surfaces within a watershed.

(5) "Best management practice (BMP)" means a structural or nonstructural practice, which is designed to minimize the impacts of development on surface and groundwater systems as outlined stormwater management plan.

(6) "Bioretention basin" means a water quality BMP engineered to filter the water quality volume through an engineered planting bed, consisting of a vegetated surface layer (vegetation, mulch, ground cover), planting soil, and sand bed, and into the in-situ material.

(7) "Bioretention filter" means a bioretention basin with the addition of a sand filter collector pipe system beneath the planting bed.

(8) "Board" means the Virginia Soil and Water Conservation Board, created under Sec. 10.1-502, Code of Virginia.

(9) "Channel" means a natural or manmade waterway.

(10) "Constructed wetlands" means areas intentionally designed and created to emulate the water quality improvement function of natural wetlands for the primary purpose of removing pollutants from stormwater.

(11) "Development" means a tract of land developed or to be developed as a unit under single ownership or unified control, which is to be used for any business or industrial purpose or is to contain three or more residential dwelling units.

(12) "Flooding" means a volume of water that is too great to be confined within the banks or walls of the stream, water body or conveyance system and that overflows onto adjacent lands, causing or threatening damage.

(13) "Floodplain" means those areas adjoining a river, stream, channel, ocean, bay or lake, which will be inundated by flooding.

(14) "Grassed swale" means an earthen conveyance system, which is broad and shallow with erosion resistant grasses and check dams, engineered to remove pollutants from stormwater runoff by filtration through grass and infiltration into the soil.

(15) "Impervious cover" means a surface composed of any material that significantly impedes or prevents natural infiltration of water into soil. Impervious surfaces include, but are not limited to, roofs, buildings, streets, parking areas, and any concrete, asphalt, or compacted gravel surface.

(16) "Infiltration facility" means a stormwater management facility, which temporarily impounds runoff and discharges it via infiltration through the surrounding soil. While an infiltration facility may also be equipped with an outlet structure to discharge impounded runoff, such discharge is normally reserved for overflow and other emergency conditions. Since an infiltration facility impounds runoff only temporarily, it is normally dry during non-rainfall periods. Infiltration basin, infiltration trench, infiltration dry well, and porous pavement shall be considered infiltration facilities.

(17) "Inspection" means an on-site review of the project's compliance with the approved plan, the local stormwater management program, and any applicable design criteria.

(18) "Land development" or "land development project" means a manmade change to, or construction on, the land surface that changes its runoff characteristics.

(19) “Linear development project” means a land development project that is linear in nature such as, but not limited to, (i) the construction of electric and telephone utility lines, and natural gas pipelines; (ii) construction of tracks, rights-of-way, bridges, communication facilities and other related structures of a railroad company; and (iii) highway construction projects.

(20) “Local stormwater management program” or “local program” means a statement of the various methods adopted by this chapter and implemented by the City of Lynchburg to manage the runoff from land development projects with provisions to require the control of post-development stormwater runoff rate of flow and may include such items as local ordinances, policies and guidelines, technical materials, inspections, enforcement and evaluation.

(21) “Locality” means the City of Lynchburg.

(22) “Nonpoint source pollution” means contaminants such as sediment, nitrogen and phosphorous, hydrocarbons, heavy metals, and toxins whose sources cannot be pinpointed but rather are washed from the land surface in a diffuse manner by stormwater runoff.

(23) “Nonpoint source pollutant runoff load” or “pollutant discharge” means the average amount of a particular pollutant measured in pounds per year, delivered in a diffuse manner by stormwater runoff.

(24) “Onsite stormwater management facilities” means facilities, which are designed to control stormwater runoff emanating from a specific site, at the specific site.

(25) “Percent impervious” means the impervious area within the site divided by the total area of the site multiplied by one hundred (100).

(26) “Person” means any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, city, town or other political subdivision of the Commonwealth, any interstate body or any other legal entity.

(27) “Planning area,” means a designated portion of the parcel on which the land development project is located. Planning areas shall be established by delineation on a master plan. Once established, planning areas shall be applied consistently for all future projects.

(28) “Plan approving authority” refers to the administrative person or body responsible for the review and approval of land development and stormwater management in the jurisdiction in which the project is located.

(29) “Post-development” refers to conditions that reasonably may be expected or anticipated to exist after completion of the land development activity on a specific site or tract of land.

(30) “Pre-development” refers to the land use conditions that exist at the time that plans for the land development are submitted for approval to the locality. Where phased development or plan approval occurs (preliminary grading, roads and utilities, etc.); the existing land use conditions at the time the first item/phase is submitted shall establish pre-development conditions.

(31) “Program administrator” means the person or persons responsible for administering and enforcing the stormwater management ordinance of a program authority.

(32) “Program authority” means a district, county, city, town or regional alliance which has adopted a stormwater management program which has been approved by the board.

(33) “Regional (watershed wide) stormwater management facility” or “regional facility” means a facility or series of facilities designed to control stormwater runoff from a specific contributing watershed area, although only portions of the watershed may experience land development.

(34) “Regional stormwater management plan” or “regional plan” means a document containing material describing how runoff from open space, existing development and future planned development areas within

a watershed will be controlled by coordinated design and implementation of regional stormwater management facilities.

(35) "Runoff" or "stormwater runoff" means that portion of precipitation that is discharged across the land surface or through conveyances.

(36) "Sand filter" means a contained bed of sand which is designed to filter the runoff. The runoff is then collected beneath the sand bed and conveyed to an adequate discharge point or infiltrated into the in-situ soils.

(37) "Shallow marsh" means a zone within a stormwater extended detention basin that exists from the surface of the normal pool to a depth of six (6) to eighteen (18) inches, and has a large surface area and, therefore, requires a reliable source of baseflow, groundwater supply, or a sizable drainage area, to maintain the desired water surface elevation to support emergent vegetation.

(38) "Site" means the parcel of land being developed, or a planning area in which the land development project is located.

(39) "State project" means the construction of any facility or expansion of an existing facility including, but not limited to land clearing, soil movement, or land development, which is undertaken by any state agency, board, commission, authority or any branch of state government, including state supported institutions of higher learning.

(40) "State waters" means all waters, on the surface or under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction.

(41) "Stormwater detention basin" or "detention basin" means a stormwater management facility, which temporarily impounds runoff and discharges it through a hydraulic outlet structure to a downstream conveyance system.

(42) "Stormwater extended detention basin" or "extended detention basin" means a stormwater management facility which temporarily impounds runoff and discharges it through a hydraulic outlet structure over a specified period of time to a downstream conveyance system for the purpose of water quality enhancement or stream channel erosion control.

(43) "Stormwater extended detention basin-enhanced" or "extended detention basin-enhanced" means an extended detention basin modified to increase pollutant removal by providing a shallow marsh in the lower stage of the basin.

(44) "Stormwater management" is the design and use of structural or nonstructural practices to achieve the responsible discharge of stormwater runoff as defined by the requirements of this ordinance.

(45) "Stormwater management facility" means a device that controls stormwater runoff and changes the characteristics of that runoff including, but not limited to, the quantity and quality, the period of release or the velocity of flow.

(46) "Stormwater management plan" or "plan" means a document containing material describing how a land development project shall comply with the requirements of this chapter.

(47) "Stormwater retention basin" or "retention basin" means a stormwater management facility which, similar to a detention basin, temporarily impounds runoff and discharges its outflow through a hydraulic outlet structure to a downstream conveyance system. Unlike a detention basin, however, a retention basin also includes a permanent impoundment and, therefore, is normally wet, even during non-rainfall periods. Storm runoff inflows are temporarily stored above this permanent impoundment.

(48) "Subdivision" means the division of a parcel of land into three or more lots or parcels of less than five acres each for the purpose of transfer of ownership or building development, or, if a new street is involved in

such division, any division of a parcel of land. The term includes resubdivision and, when appropriate to the context, shall relate to the process of subdividing or to the land subdivided.

(49) “Vegetated filter strip” means a densely vegetated section of land engineered to accept runoff as overland sheet flow from upstream development. It shall adopt any natural vegetated form, from grassy meadow to small forest. The vegetative cover facilitates pollutant removal through filtration, sediment deposition, infiltration and absorption, and is dedicated for that purpose.

(50) “Water quality volume” means the volume equal to the first 0.5 inch of runoff multiplied by the total area of the land development project. The “total area of the land development project” shall include areas with impervious cover and/or any areas where the change in land use or runoff characteristics may adversely impact water quality.

(51) “Watershed” means the total drainage area contributing runoff to a single point. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Secs. 16.2-9—16.2-19. Reserved.**

## **ARTICLE II. STORMWATER MANAGEMENT**

### **Sec. 16.2-20. Storm water management in general.**

Stormwater management practices shall be provided in conjunction with land development activities, which require the submission of construction plans and profiles or a site plan. An evaluation shall be performed for each proposed land development project not exempted from this chapter as provided in 16.2-5(b) to assure compliance with state law and the city ordinance concerning stormwater management. Stormwater management must be verified with engineering calculations for the design-year event as defined herein, in accordance with the procedures outlined in the latest edition of the Virginia Stormwater Management Handbook or other methods approved by the city’s program administrator or his/her designee.

(a) Proposed residential, commercial, and/or industrial subdivisions shall apply these stormwater management criteria to the land development as a whole. Individual lots in new subdivisions shall not be considered separate land development projects, but rather the entire subdivision shall be considered a single land development project. Hydrologic parameters shall reflect the ultimate land development and shall be used in all engineering calculations.

(b) Stormwater management and detention shall not be required for projects less than 1000 square feet. On site detention shall not be required for projects less than 10,000 square feet, providing allowances for stormwater management are made through structural and/or non-structural practices (best management practices) detailed within the latest editions of the Virginia Erosion and Sediment Control Handbook, the Virginia Stormwater Management Handbook, Vols. 1 and 2 or alternatives approved by the Plan Approving Authority. Stormwater management and detention shall be required for projects greater than or equal to ten thousand (10,000) square feet. Construction of stormwater management facilities or modifications to channels shall comply with all applicable laws and regulations. Evidence of approval of all necessary permits shall be presented.

(c) Pre-development and post-development runoff rates shall be verified by calculations that are consistent with good engineering practices and are acceptable to the City of Lynchburg Plan Approving Authority.

(d) The design of impounding structures shall be checked by a design professional (certified to practice in the Commonwealth of Virginia) for structural integrity and floodplain impacts for the 100-year storm event.

(e) Outflows from storm water management facilities shall be discharged to an adequate channel. Measures for the adequate drainage of surface waters shall be taken and facilities to accommodate that

drainage shall be provided in connection with all land development activities. Specifically, the drainage system or adequate outfall shall be defined as follows and must comply with the following provisions:

(1) Adequate drainage of surface waters means the effective conveyance of storm and other surface waters through and from the development site and the discharge of such waters into a natural watercourse, i.e., a stream with incised channel (bed and banks), or a concave swale, or drainage facility of sufficient capacity without adverse impact upon the land over which the waters are conveyed or upon the watercourse or facility into which such waters are discharged. Complete calculations and a narrative shall be included on the plan. Verification of channel adequacy should include the following:

a. Channel geometry: A minimum of three channel cross-sections should be taken at a minimum spacing of 50' along the channel length downstream of the discharge point. The channel top of bank should be well defined and identifiable by field parameters such as a flattening or change in bank slope, flattened vegetation in the direction of flow, soil types or other obvious indicators of frequent flow levels. When the top of bank does not appear to be obvious, a hydrologic analysis of the contributory drainage area and the corresponding two (2)-year undeveloped peak discharge may be used to define the cross-sectional flow area using Manning's equation.

b. Channel lining: The channel lining material should be evaluated to determine the permissible velocities as found in Table 5-22 of the Virginia Erosion and Sediment Control Handbook, 1992 Edition.

c. Slope: These include, for natural and manmade conveyance, respectively.

d. Channel slope: Relative elevations should be taken along the channel length at the channel cross-sections in order to determine the average longitudinal slope of the channel.

e. Energy slope: A hydraulic grade line calculation should accompany any analysis of an existing or proposed pipe system to verify that the flow is contained within the system during the ten (10)-year frequency storm.

(2) The necessary construction easements to accomplish the above provisions shall be required. The city reserves the right to require permanent drainage easements to permit reasonable access to drainage ways or drainage facilities for maintenance.

(3) The drainage system must have the hydraulic characteristics to accommodate the designed flow of surface waters for a given watershed, or portion thereof, for the duration and intensity of rainfall, as specified in Section 16.2-20 et seq.

(4) Determination of the size and capacity of the drainage system shall be based on the planned development and existing development within the watershed.

(5) The onsite drainage system shall be adequate and shall:

a. Account for both off-site and on-site surface waters and natural drainage divides.

b. Convey such waters to a natural watercourse at the natural elevation, or an existing storm drainage facility.

c. Discharge the surface waters into an existing facility or natural watercourse of adequate capacity.

(6) The drainage system shall be adequate and properties over which the surface waters are conveyed, from the development site to discharge point(s), shall not be adversely affected.

(7) Concentrated surface waters shall not be discharged on adjoining property, unless an easement expressly authorizing such discharge has been granted by the owner of the affected land or unless the discharge is into a natural watercourse or other appropriate discharge point as set forth above.

(f) Velocity dissipaters shall be placed at the outfall of all stormwater discharge points as necessary to provide a non-erosive velocity of flow from the outfall into an adequate channel. Conveyance channels shall

be designed to provide non-erosive surface for designed flows, based on current Virginia Department of Conservation and Recreation standards. Riprap shall only be used when protection of the channel geometry and lining cannot otherwise be achieved.

(g) Land development projects must comply with the Virginia Erosion and Sediment Control Act and attendant regulations.

(h) Suitable safety measures should be incorporated into the design of all stormwater management facilities. These may include but are not limited to, safety ledges, fencing, warning signs, anti-vortex devices, stadia rod indicating depth at the lowest point, and outlet structures designed to limit public access. The Plan Approving Authority reserves the right to require safety measures consistent with local policies for public safety.

(i) If stormwater management facilities are provided through which water passes at times other than following rainfall, documented provisions shall be made to pass existing flows. It is necessary for detention requirements to be met, despite the necessity of passing certain low flows. This applies to all onstream or online stormwater management facilities.

(j) Outlets from stormwater management facilities shall be designed to function without manual, electrical or mechanical controls, unless authorized in advance in writing by the program administrator.

(k) Detention facilities shall be designed to minimize propagation of insects, particularly mosquitoes.

(l) Outlets for all stormwater management facilities shall be designed to impede the downstream migration of trash and debris into natural and man-made channels. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

#### **Sec. 16.2-21. Technical requirements.**

The following technical requirements are designed to help control the quality and the quantity of stormwater runoff from development sites. The quality of stormwater runoff from development sites can be adversely affected by a variety of pollutants; an objective of these requirements is to prevent those pollutants from reaching adjacent or downstream properties or any state waters located downstream from the development site. Adverse impacts from increases in the quantity of stormwater runoff can lead to flooding, erosion and increased sedimentation; another objective of these requirements is to prevent those impacts from occurring.

(a) Stormwater quality management:

Stormwater quality management shall meet quality requirements of the Commonwealth of Virginia.

(b) Stormwater management quantity control:

(1) A stormwater management plan for a land development project shall be developed so that, the post-development peak runoff rate from a two (2)-year storm and a ten (10)-year storm, considered individually, shall not exceed their respective pre-development rates.

(2) These design storms shall be defined as being type II, a twenty-four (24)-hour storm using the rainfall distribution recommended by the U.S. Soil Conservation Service and U.S. Soil Conservation Service calculation methods (TR-55 or TR-20) or rational method shall be utilized. Other calculation methods may be utilized with prior approval by the program administrator.

(3) For purposes of computing runoff, all lands in the site shall be assumed prior to development to in good condition if the lands are pastures, lawns, or parks, with good cover if the lands are woods, or with conservation treatment if the lands are cultivated; regardless of conditions existing at the time of computation. Runoff coefficient values should be assigned according to Table 5-2 of the Virginia Erosion and Sediment Control Handbook.



(4) All stormwater management facilities shall be verified by routing calculations through the facility during the life of the runoff storm whichever is greater. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Sec. 16.2-22. Regional storm water management.**

Where possible all subdivisions, especially those for commercial and industrial use, shall employ a regional detention facility for all lots within the development. If regional detention is not a viable option, as determined by the plan approving authority, a combination of non-structural, structural practices and/or on site detention shall be designed to reduce the runoff peak on a lot-by-lot basis. If a regional stormwater management plan has been adopted by the City of Lynchburg for the watershed in which the proposed land development is located, the applicant shall comply with the requirements of the regional watershed plan. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Sec. 16.2-23. Floodplain management.**

(a) A study will be required for all new construction that provides a net increase in impervious area of the site and/or filling within the floodplain [as determined by the most recent floodplain study adopted by the City of Lynchburg]. This study shall meet the requirements as specified in Sec. 35.1-45, Flood Hazard Districts and be subject to the approval of a joint review committee consisting of one representative from the department of community planning and development and one representative from the department of public works—engineering design section. This should include construction of onsite stormwater management facilities, as well.

(b) When the construction of stormwater facilities within the floodplain is unavoidable, a special examination to determine adequacy of proposed stormwater management facilities during the one hundred (100)-year flood shall be required. The purpose of this analysis is to ensure that the stormwater management facility will operate effectively and to evaluate the effect the stormwater management facility may have on the available floodplain storage. One acceptable method is to apply the design storm to both the site and to the entire watershed at the point in question. The time of concentration assumed for the entire watershed should be that appropriate to the larger area, rather than the shorter period applicable to the site.

(c) In addition, such construction shall be in compliance with all applicable regulations under the National Flood Insurance Program and Code of the City of Lynchburg. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Sec. 16.2-24. Nonstructural measures.**

It is not necessary that basic requirements for water quality and quantity control be satisfied solely by means of structural methods. Non-structural practices including, but not limited to, cluster land use development, minimization of impervious surfaces, open space acquisition, floodplain management, and protection of wetlands, steep slopes and vegetation should be coordinated with structural requirements. Approval of non-structural practices can be granted at the discretion of the plan approving authority as an alternative to individual structural practices. The option of non-structural practices shall be justified by documentation. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Secs. 16.2-25—16.2-35. Reserved.**

**ARTICLE III. STORMWATER MANAGEMENT PLAN REQUIREMENTS**

**Sec. 16.2-36. Plan required.**

(a) Except as provided for in Section 16.2-5(b) of this chapter, no grading, building, or other permit shall be issued for land development unless a stormwater management plan has been submitted to and approved by the City of Lynchburg.

(b) The applicant shall demonstrate that the project meets the criteria set forth in this chapter.

(c) Failure of the applicant to demonstrate that the project meets the criteria set forth in this chapter shall be reason to deny the applicant's underlying application for approval.

(d) Planning, design, and approach to storm water management in the City of Lynchburg shall be in substantial conformance with this chapter. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Sec. 16.2-37. Plan submission.**

(1) The applicant shall submit, to the program administrator, the material required in a stormwater management plan in accordance with Section 16.2-56 of this chapter.

(2) Five (5) copies of the stormwater management plan shall be submitted.

(3) The fee specified in Section 16.2-56 of this chapter shall accompany the stormwater management plan. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Sec. 16.2-38. Plan contents.**

The following information, where applicable, shall be required for each proposed project subject to review under this ordinance. Stormwater management plans (maps, plans, designs and calculations) shall be appropriately sealed and signed by a professional in adherence to all minimum standards and requirements pertaining to the practice of that profession in accordance with Chapter 4 (54.1-400 et seq.) of Title 54.1 of the Code of Virginia and attendant regulations.

(a) General:

(1) General description of the project.

(2) General description of the erosion and sediment controls.

(3) General description of temporary and permanent stormwater management facilities.

(4) Project schedule and narrative, including a sequence of construction.

(b) Technical:

(1) Maps of the project area showing:

a. The boundary of the drainage area tributary to the project site (e.g., U.S.G.S. quadrangle map).

b. The location of the project relative to significant features in the general surroundings such as roads, adjacent land uses, property lines, existing manmade structures and public facilities.

c. Existing contours at two (2)-foot intervals, extending as necessary to indicate the existing drainage patterns beyond the limits of the proposed development.

d. Streams, lakes, ponds, existing drainage swales, wetlands, forested areas and other physical features within or adjacent to the project area.

e. Unique, unusual, or environmentally sensitive features that provide particular opportunities or constraints for development.

f. Locations of existing and proposed utilities, sewers and water lines.

g. General alterations in the natural terrain, cover, and grade including lawns and other landscaping.

h. The location of proposed buildings, roads, parking areas, and other permanent structures.

i. Proposed contours at 2-foot intervals and extending beyond the limits of the proposed development.

j. All stormwater management facilities must be shown on a map, including details, plan, profile, and cross-sections.

k. If infiltration facilities are proposed, the locations of existing and proposed wells and septic system drain fields must be shown.

l. Limits of construction, clearing and grading. (Ord. No. O-01-079,4-24-01, eff. 5-1-01)

**Sec. 16.2-39. Reports.**

(a) Comprehensive hydrologic and hydraulic design calculations, including all assumptions and criteria, for the pre-development and post-development conditions for the design storms specified in Article II of this chapter.

(b) A soils report/geotechnical analysis and boring logs, for infiltration facilities.

(c) A maintenance plan indicating the person permanently responsible for maintenance of the stormwater management facilities and a maintenance program for the proposed stormwater management facilities. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Sec. 16.2-40. Plan approval.**

(a) A maximum of thirty (30) calendar days from the receipt of an application will be allowed for preliminary review of the application for completeness. During this period, the application will be accepted for review, which will begin the thirty (30)-day review period, or rejected for incompleteness. The applicant will be informed in writing of the information necessary to complete the application.

(b) The thirty (30)-day review period begins on the day the complete stormwater management plan is accepted for review. At this time, an acknowledgment letter will be sent to the applicant. During the thirty (30)-day review period, the plan approving body shall either approve or disapprove the plan and communicate its decision to the applicant in writing. Approval or denial shall be based on the plan's compliance with this chapter.

(c) A disapproval of a plan shall contain the reasons for disapproval.

(d) The applicant or any aggrieved party authorized by law may appeal the plan approving body's decision of approval or disapproval of a stormwater management plan application within thirty (30) days after the rendering of such a decision, to the City of Lynchburg circuit court.

(e) Judicial review shall be on the record previously established and shall otherwise be in accordance with the provisions of the Administrative Process Act (Sec. 9-6.14:1 et seq. of the Code of Virginia). (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Sec. 16.2-41. Conditions of plan approval.**

Each approved stormwater management plan shall be subject to the following conditions:

(a) The applicant shall comply with all applicable requirements of the approved plan and the local program and shall certify that all land clearing, construction, land development and drainage will be done according to the approved plan.

(b) The land development project shall be conducted only within the limits construction, clearing and grading specified in the approved plan.

(c) The City of Lynchburg or its designee shall be allowed, after giving notice to the owner, occupier or operator of the land development project, to conduct periodic inspections of the project. The owner, occupier or operator shall be given the opportunity to accompany the inspector.

(d) No transfer, assignment or sale of the rights granted by virtue of an approved plan shall be made unless the transferee certifies agreement to comply with all obligations and conditions of the approved plan.

(e) A set of certified as-built plans for the stormwater management facilities shall be submitted to the City of Lynchburg upon completion of the project. Said as-builts shall include volume confirmation with supporting computations and include structural elevations and dimensions.

(f) While the project is under bond, the person responsible for implementing the approved plan shall conduct monitoring and submit reports to ensure compliance with the approved plan and to determine whether the plan provides effective stormwater management. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Sec. 16.2-42. Performance bond required.**

(a) All applicants shall submit to the City of Lynchburg a performance bond with surety, cash escrow, letter of credit, or such other legal arrangement acceptable to the city attorney, to ensure that measures could be taken by the city at the applicant's expense should the applicant fail, after proper notice, within the time specified to initiate or maintain appropriate actions which may be required of the applicant by the approved stormwater management plan.

(b) If the City of Lynchburg takes such action upon such failure by the applicant, the city may collect from the applicant the costs of such action in excess of the amount of the security held.

(c) Within sixty (60) days of the completion of the requirements of the approved stormwater management plan, including necessary stabilization, the bond, cash escrow, letter of credit or other legal arrangement, or the unexpended or unobligated portion thereof, shall be refunded to the applicant or terminated.

(d) These requirements are in addition to all other provisions of law relating to the issuance of such plans and are not intended to otherwise affect the requirements for such plans. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Sec. 16.2-43. Changes to an approved plan.**

No changes may be made to an approved plan without review and written approval by City of Lynchburg. Upon the release of the land disturbance bond, any proposed changes to the site layout, increases in impervious area or alterations of stormwater conveyance systems, easements or facilities must be submitted to the plan approving authority of the City of Lynchburg for review and approval. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Secs. 16.2-44—16.2-54. Reserved.**

**ARTICLE IV. ENFORCEMENT AND FEES**

**Sec. 16.2-55. Exceptions.**

(a) A request for an exception shall be submitted, in writing, to the program administrator. An exception from this chapter may be granted, provided that: (i) exceptions to the criteria are the minimum necessary to afford relief, and (ii) reasonable and appropriate conditions shall be imposed as necessary upon any exception granted so that the purpose and intent of this chapter is preserved.

(b) Economic hardship is not sufficient reason to grant an exception from the requirements of this chapter. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Sec. 16.2-56. Fees.**

The fee structure for stormwater management plan review within the City of Lynchburg will be incorporated into the erosion and sediment control review fee as part of the department of community planning and development's technical review committee process. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Sec. 16.2-57. Inspections and monitoring.**

(a) The program administrator or designee shall make regular inspections during all phases of construction of the stormwater management facilities.

(b) The applicant shall notify the city forty-eight (48) hours prior to the commencement of any activity covered by this ordinance so that appropriate inspections can be made to insure compliance with this chapter.

(c) Inspection reports shall be maintained as part of the land development project file. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Sec. 16.2-58. Maintenance agreement.**

(a) A maintenance agreement between the city and the owner of any permanent stormwater control facility shall be implemented prior to the release of any performance bond that may be required by the city for this facility.

(b) Responsibility for the operation and maintenance of stormwater management facilities, unless assumed by the city or other governmental agency, shall remain with the property owner and shall pass to any successor or owner. If portions of the land are to be sold, legally binding arrangements shall be made to pass the basic responsibility to successors in title. These arrangements shall designate for each parcel the property owner, governmental agency, or other legally established entity to be permanently responsible for maintenance.

(c) In the case of developments where lots are to be sold, permanent arrangements satisfactory to the city attorney shall be made to insure continued performance of these obligations.

(d) In the event that the stormwater management facilities are in need of maintenance or become a danger to public safety or public health, the responsible person shall be notified in writing, advised of the corrective measures required, and given a reasonable period of time to take necessary action. If the responsible person fails or refuses to perform such maintenance and repair, the city has the authority to perform the work and to recover the costs from the responsible person.

(e) To ensure proper performance of the stormwater management facility, the owner is responsible for inspecting the stormwater management facility on a semi-annual basis and after any storm, which causes the capacity of the facility to be exceeded. More frequent inspections may be required if deemed necessary by the program administrator. The owner must file written record of inspections to the program administrator within five (5) working days of the inspection. Utilize the Operation and Maintenance Checklist (appendix 3B) contained in the Virginia Stormwater Management Handbook.

(f) Right of entry agreements or easements shall be required from the applicant for purposes of inspection by the program administrator or designee. Said agreements or easements may also permit the city or designee to enter the property for the purpose of maintenance and repair should the responsible party not fulfill these duties. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

**Sec. 16.2-59. Enforcement.**

(a) If it is determined that there is a failure to comply with the approved plan, notice shall be served upon the applicant or person responsible for implementing the plan by registered or certified mail to the

address specified in the application or plan certification, or by delivery at the land development site to the agent or employee supervising such activities.

(b) The notice shall specify the measures needed to comply with the plan and shall specify the time within which such measures shall be completed.

(c) Upon failure to comply within the time specified, the permit or approval may be revoked and the applicant or person responsible for implementing the plan shall be deemed to be in violation of this ordinance.

(d) Any person who violates any provision of this ordinance shall be guilty of a misdemeanor and shall be subject to a fine or imprisonment for each violation, or both, as provided for in Section 10.1-603.14 of the Code of Virginia.

(e) The program administrator may apply to the circuit court to enjoin a violation or a threatened violation of this chapter as provided for in Section 10.1-603.14 of the Code of Virginia without the necessity of showing that an adequate remedy at law does not exist.

(f) Without limiting the remedies, which may be obtained in this section, the program administrator may bring a civil action against any person for violation of this chapter, or any condition of the permit or approval, or any provision of the local program. The action may seek to impose of a civil penalty of not more than \$2000 for each violation as provided for in Section 10.1-604.14 of the Code of Virginia.

(g) With the consent of any person who has violated or failed, neglected or refused to obey this ordinance or any condition of the permit or approval or any provision of the local program, the program administrator may issue an order against or to such person, for the payment of civil charges for violations in specific sums, not to exceed the limit specified in subsection F of this section as provided for in Section 10.1-604.14 of the Code of Virginia. Such civil charges shall be instead of any appropriate civil penalty, which could be imposed under subsection F. (Ord. No. O-01-079, 4-24-01, eff. 5-1-01)

